THE SCENARIO

Aubrey Vale never thought of her suburban home in eastern Maryland as part of a tropical hurricane belt – until the day Hurricane Lucy came.

Photo credit: Creative Commons, Hurricane Katrina

Over several days in late September, Lucy crawled up the Atlantic coast, finally barreling toward Maryland's Chesapeake Bay and the Eastern Shore. The Vales evacuate with the rest of their town, heading north, to New York, and the safety of Aubrey's grandfather's apartment. It's a good thing too: the full impact of Lucy smashes into the Bay area and Washington, D.C.

Hurricanes, like Lucy, are expected every 100 years. Lucy is the second to hit the eastern U.S. in 5 years. Lucy left a path of destruction that destroyed homes, schools, businesses and communities. More than 30,000 people were forced to relocate while the area rebuilds. Among the "refugees" are Aubrey and her family, now living in New York with Grandpa Jack.

Jack Hanover is affectionately known in the press not as Aubrey's grandfather, but the "grandfather of global warming," a scientist who has spent his career discovering documenting, and educating the public about climate change.

Climate Change Science Realities

When the news about Lucy broke, Hanover was just finishing a presentation to thousands of scientists, attending the Global Climate Summit. Below is an excerpt from Hanover's presentation.

> *Continuing at the present rates of burning fossil fuels to meet the growing global demand for energy will add enough carbon dioxide and other greenhouse gases to the atmosphere to significantly raise Earth's global temperature in the next 2-3 decades, when today's teenagers will be in their 40s. Factors that drive our climate are changing and the world is likely unprepared for the magnitude of impacts we can expect in the coming decades. These include: changes in temperature and precipitation patterns, sea live rise, increasing frequency of extreme weather and other related environmental, economic and social stresses on the planet and all life.*

A Global Band of Friends

Living out of a few suitcases, sleeping on Hanover's couch, attending a new school, and away from her home and friends, Aubrey never imagined events like Lucy could impact her. These disasters were something she only heard about on the news; they happened to other people who lived far away from the comforts of her life on Maryland's Eastern Shore.

Her only escape from the upheaval in her life was a Google Hangout where she meets other teenagers who, like her, are living on the frontlines of climate change. Each teen has a personal story to share about his/her own interests and skills, region of the world and unique experiences. Together, they form a global band of friends:

> *Jia's* family farm was lost to flooding by the release of dam waters and had to transition to new life in a big polluted city
> *Luis* from Brazil relocated after flooding resulted in a mudslide that swept away his home
> *Albert* faced severe and prolonged drought that threatened his family's survival in northern Kenya
> *Natasha's* apartment building in the Russian tundra collapsed as a result of thawing frozen ground (permafrost)
> *Will* in Bangledesh was forced to move after a fierce cyclone caused storm surges that flooded and ruined his family's farm

Climate Science and Solutions – Will's "Hot" Climate Game Idea

Wondering why Aubrey retreats to the basement for so many hours (and at all hours), Grandpa Jack wanders down to see what's up. He finds her engaged in a Google Hangout. After some cajoling, Aubrey convinces Hanover to join in with all of the kids. Most of the conversation is spent identifying climate conditions in the teens' respective regions, what they viewed as normal compared to observed changes. And, peppering one another with

questions about what more they needed to know in order to figure out if the events impacting their lives were part of a bigger global climate change story. Hanover thinks, "How refreshingly scientific these young people are in discussing climate change!"

Not realizing he's thinking out loud, Hanover says, "If only more youth could connect like you to evaluate climate change and solutions." Will loses no time telling Hanover an idea to build a massive online climate reality game that thousands, maybe millions of people, could play. The idea would be for players to face real climate stories happening in the real world, makomg decisions about how to minimize the impacts to people and the environment. It is also to gain the most influence over the human and environmental knobs of climate for all humanity. The game could be called *Hot: One World, One Planet.*

Moved by Will's idea and all the kids' support for it, Hanover decides to go for it. He enlists the help of blockbuster film director, James Merimon, world-renowned economist and global poverty fighter, John Jacks and the famous game developer, Sussie Schell. They develop a game that blurs the lines between the real and game worlds.

A beta version of Hot is ready. Step into the roles of Aubrey and her friends and form a team to test it. Investigate climate change and energy solutions based on events drawn from today's headlines. Evaluate and recommend solutions backed by science. In the final Quest spread your team's solution to people outside the Hot game and convince as many as possible that it achieves the best climate future for the world.

Grandpa Jack, Merimon, Jacks and Schell become the kids' mentors on their 6-Quest journey from curiosity and concern to knowledge and organizing. As students progress through the Climate Challenge Quests, their stories develop along with opportunities to learn alongside the characters they are role-playing.